



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/640,862 08/18/00 KURITA

H 107082

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P O BOX 19928
ALEXANDRIA VA 22320

MM91/0913

EXAMINER

PATEL, I

ART UNIT

PAPER NUMBER

2841

DATE MAILED:

09/13/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/640,862

Applicant(s)

KURITA ET AL.

Examiner

Ishwar B Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 1-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-13, drawn to a process for manufacturing a flexible wiring board, classified in class 29, subclass 846.
 - II. Claims 14-17, drawn to a flexible wiring board, classified in class 174, subclass 254.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions group II and I are related as process of making and product made.

The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process, such the product can be made without using the ultrasonic bonding. Further the product can also be made by thermo-compression bonding. Further either the resin film can be interposed between the metal plate or a resin precursor / resin paste can be applied to one of the metal film and cured.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and the

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search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Mike Britton (Reg. 47,260) on August 7, 2001 a provisional election was made with traverse to prosecute the invention of Group II, claims 14-17.

5. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-13 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

6. The drawings are objected to because the numbering of figure is confusing. Preferably the subscript used with figure 2, 3, and 5 should start with "a", such 2a, 2b..., 3a, 3b,...5a, 5b...., instead of in continuation from previous figures.

Correction is required.

Specification

7. The abstract of the disclosure is objected to because the abstract should be in narrative form and generally limited to a single paragraph.

Correction is required. See MPEP § 608.01(b).

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Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odaira et al., US Patent No. 5,600,103, hereafter referred to as Odaira.

Regarding claim Odaira discloses a flexible wiring board comprising:

a plurality of patterned metal films with a resin film being interposed there between among which adjacent two metal films are electrically connected to each other via bumps (copper foil 5' and 6' with bump 2 and resin film 4, see figure 7a-7b, embodiment 4, column 12, line 48-67). Though Odaira does not explicitly disclose the curing of the resin film, the connection between the metal films using the resin film carried out with a pressure of 1 MPa at 270°C. and even though product – by – process claims are limited by and defined by the process, determination of patentability is based on the product it self. The patentability of a product does not depend on its method of production. If the product in the product – by – process claim is same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

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Regarding claim 18, the applicant is claiming the said resin film cured by heat treating it while the top surface of said resin film is at least partially exposed between said patterned metal films. However it will vary with the method used for the manufacturing the substrate. Though Odaira does not explicitly disclose the curing or lamination will be done with partially exposing the resin surface between the metal film, Odaira does disclose a pattern formed on either of the metal foil before bonding them together and in turn expose the resin film (see figure 1, 5A, 5B, column 9, line 60 to column 11 line 60) and even though product – by – process claims are limited by and defined by the process, determination of patentability is based on the product it self. The patentability of a product does not depend on its method of production. If the product in the product – by – process claim is same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding claim 16 and 17, the applicant is claiming the said two adjacent metal films connected via said bumps is ultrasonically bonded to said bumps. Though Odaira does not disclose the ultrasonic bonding of the bumps, the ultrasonic bonding is known in the art for bonding two conductors and the bonding can even be carried out by other known method. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the circuit board of Odaira with the ultrasonically bonding the said bumps, since it has been held that the process limitation in the product claims, which product does not otherwise patentably distinguish over prior

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art, cannot impart patentability to the product. *In re Stephens* 145 USPQ 656 (CCPA 1965).

Conclusion

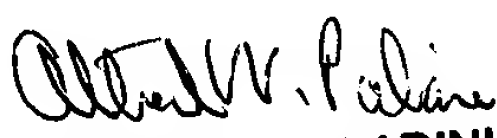
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Motomura et al., Mizutani et al., Murakami et al, Motomura et al., Yamamoto et al., and Ishino et al., disclose the circuit boards similar to applicant's claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar B Patel whose telephone number is (703) 305 2617. The examiner can normally be reached on M-F (6:30 - 4) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on (703) 308 3301. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3431 for regular communications and (703) 305 7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

ibp
September 7, 2001

 9-7-01
ALBERT W. PALADINI
PRIMARY EXAMINER

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